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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,979	03/29/2004	Thomas E. Kovanko	SC-5357	5911

24275 7590 10/10/2006

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EXAMINER

VELEZ, ROBERTO

ART UNIT PAPER NUMBER

2829

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/813,979

Applicant(s)

KOVANKO ET AL.

Examiner

Roberto Velez

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 03/06/2006.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/18/2006 has been entered.

Response to Arguments

2. Applicant's arguments, see (Page 3, Lines 23-26), filed 09/18/2006, with respect to the rejection(s) of claim(s) 2 under ***Goldner et al. (US Pat. 6,211,982)*** have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of ***Kochergin et al. (US Pat. 7,106,919)***.
3. Applicant's arguments filed 09/18/2006 have been fully considered but they are not persuasive.
4. Applicant respectfully submits (Page 3, Lines 17-18) that there is no teaching of applicants' invention as recited in claim 1 for an optical current sensor that includes both DC magnetic bias and mechanical prestress bias to a modulator for linearizing the output thereof. Examiner disagrees to Applicant's arguments. ***Adolfsson et al. (US Pat. 4,547,729)*** shows (Fig. 6) an optical current sensor that includes a DC magnetic bias (using [59]) and mechanical prestress bias (using [56]) to modulator [5].

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Adolfsson et al. (US Pat. 4,547,729)*** in view of ***Kochergin et al. (US Pat. 7,106,919)***.

Regarding claim 1, ***Adolfsson et al.*** shows (Fig. 6) an optical fiber current measuring device comprises: a modulator [5] having magneto-strictive properties; a first means [2, 4, 10] affixed to said modulator [5] for providing an output proportional to the current in the conductor [61]; and second means [59] for coupling the magnetic field generated by the current in the conductor [61] to said modulator [5] and linearizing (with high accuracy as stated in Column 4, Lines 17-18) the output to said first means [4] by providing both DC magnetic bias (using [59]) and mechanical prestress bias (with the bending of [56]) to said modulator [5].

Adolfsson et al. fails to disclose said first means includes two or more tunable fiber optical filters and the output of said first means is formed by contribution from each of said tunable fiber optical filters. However, ***Kochergin et al.*** shows (Fig. 12) first means (PM fiber) includes a phase-shifted fiber Bragg grating sensor. Even though, ***Kochergin et al.*** shows only one phase-shifted fiber Bragg grating sensor, it would have been obvious to have two or more phase-shifted fiber Bragg grating sensor in order to minimize disturbances in the output signal.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of *Kochergin et al.* into the device of *Adolfsson et al.* by providing two or more tunable fiber optical filters. The ordinary artisan would have been motivated to modify *Adolfsson et al.* in the manner set forth above for the purpose of (Column 4, Lines 14-17) constructing a more simply and cheaply high quality optical resonator structure.

Regarding claim 3, *Adolfsson et al.* discloses everything as claimed above in claim 1; in addition, *Adolfsson et al.* shows (Fig. 6) second means [59] defines a magnetic path and includes a permanent magnet [59] arranged in said magnetic path.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Goldner et al. (US Pat. 6,211,982) shows (Fig. 1) a remote sensor with waveguide optics telemetry.

Brandle et al. (US Pat. 5,135,235) shows (Figures 1-4) a rugged fiber-optical current sensor based on the Faraday effect.

Brogardh et al. (US Pat. 4,529,875) shows (Figures 1-12b) a fiber-optical measuring apparatus.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberto Velez whose telephone number is 571-272-8597. The examiner can normally be reached on Monday-Friday 8:00am- 4:30 pm.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nguyen Ha can be reached on 571-272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Roberto Velez
Patent Examiner


09/29/06
PARESH PATEL
PRIMARY EXAMINER